Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1.–21. (Canceled)

22.   (Previously Presented) A method of removing residue from a substrate processing chamber, said method comprising the steps of:

forming a plasma remotely with respect to said chamber, said plasma including a plurality of reactive radicals;

forming a flow of said reactive radicals traversing toward said chamber;

forming a nonplasma diluent gas flow, wherein said nonplasma diluent gas flow comprises at least one of an inert gas or a reduction gas;

mixing said flow of said reactive radicals and said diluent gas flow at a mixing location downstream of a location of forming said flow of said reactive radicals and anterior to said chamber to form a gas-radical mixture; and

flowing said gas-radical mixture into said chamber.

23.   (Previously Presented) The method as recited in claim 22 wherein said flow of reactive radicals and said gas flow are established to maintain a pressure within said chamber below one torr.

24.   (Previously Presented) The method as recited in claim 22 wherein said reactive radicals comprise atoms associated with a reactive gas, with said reactive gas being selected from a group consisting of NF_3, dilute F_2, CF_4, C_2F_6, C_3F_8, SF_6, and ClF_3.

25.-26. (Canceled)

27.   (Previously Presented) The method as recited in claim 22 wherein said chamber has components therein, with a subset of said radicals in said gas-radical mixture

reacting with said components creating a residue and further including the step of exhausting said residue, with a rate at which said residue is exhausted depending upon a rate of said diluent gas flow.

       28.   (Previously Presented) The method as recited in claim 22 wherein said diluent gas flow travels at a first rate and said flow of said reactive radicals travel at a second rate with a ratio of said first rate to said second rate being at least 2:1.